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Part 1

AUTHORIZING APPROPRIATIONS TO THE OFFICE OF RESEARCH AND DEVELOPMENT, ENVIRONMENTAL PROTECTION AGENCY, FOR FISCAL YEARS 1984 AND 1985

May 16, 1983.—Ordered to be printed

Mr. FUQUA, from the Committee on Science and Technology, submitted the following

REPORT

[To accompany H.R. 2899]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and technology, to whom was referred the bill (H.R. 2899) to authorize appropriations for environmental research, development and demonstrations for the fiscal years 1984 and 1985, and for other purposes, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

AMENDMENTS

1. On page 2, line 5, strike out "$61,380,000" and insert in lieu thereof "$61,191,000. This amendment is technical in nature and corrects an error in the printing of the bill as introduced.
2. On page 2, line 6, strike out "$64,449,000" and insert in lieu thereof "$64,251,000. This amendment is technical in nature and corrects an error in the printing of the bill as introduced.
3. On page 13, after line 15, insert the following—

> (c) Section 8(h)(2) of such act (Public Law 95-155) is amended to read as follows:
> "(2) Members of the Board shall be compensated at a rate to be fixed by the President but not less than $100.00 per day of service and not more than the maximum rate of pay for grade GS-18, as provided in the General Schedule under section 5332 of title 5 of the United States Code." This amendment mandates compensation for individuals who serve as members of the EPA Science Advisory Board at a rate not less than $100.00 per day of service and not more than the maximum allowable for a grade GS-18.

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I. Purpose of the Bill

The purposes of the bill are:

(1) To authorize appropriations for environmental research, development, and demonstration activities of the Environmental Protection Agency for fiscal years 1984 and 1985.

(2) To expand the EPA's capability and emphasis in long-term environmental research;

(3) To authorize use of funds from the Hazardous Substances Response Fund, established by Superfund, for research and development purposes;

(4) To assign EPA the responsibility for conducting environmental research associated with energy development activities;

(5) To ensure the qualifications and objectivity of the EPA Science Advisory Board;

(6) To establish a Senior Environmental Assistance Program to utilize senior citizens while carrying out environmental research programs; and

(7) To establish a research program on indoors air quality.

A summary of appropriations authorized in the bill by program medium is as follows:

EPA RESEARCH AND DEVELOPMENT AUTHORIZATION FOR FISCAL YEAR 1984 AND FISCAL YEAR 1985

	Fiscal year 1984 authorization	Fiscal year 1985 authorization
Program medium:		
Air	$61,191,000	$64,251,000
Water quality	39,750,000	41,738,000
Drinking water	23,400,000	24,570,000
Hazardous waste	39,889,000	41,883,000
Pesticides	6,063,000	6,399,000
Radiation	1,233,000	1,295,000
Interdisciplinary	27,144,000	28,501,000
Toxic substances	23,769,000	24,957,000
Energy	21,492,000	22,567,000
Acid rain	14,038,000	14,740,000
Superfund	16,381,000	17,200,000
Management and support	9,160,000	9,618,000
Total	283,510,000	297,686,000

II. Committee Actions

The Subcommittee on Natural Resources, Agriculture Research and Environment held hearings on the fiscal year 1984 EPA budget request for research and development on March 17 and April 19 and 27, 1983. In response to these hearings, a draft bill was prepared and presented to the Subcommittee for markup on May 3, 1983. In that meeting, the Subcommittee ordered reported a clean bill to the Full Committee by a unanimous voice vote. The bill, H.R. 2899, was introduced on May 4, 1983 by Mr. Scheuer with four cosponsors (Mr. Brown of California, Mr. Andrews of Texas, Mr. MacKay, and Mr. Torricelli). H.R. 2899 was considered and ordered reported with amendments by the full Committee on Science and Technology on May 10, 1983, a quorum being present.

As ordered reported, H.R. 2899 authorizes $283,510,000 for fiscal year 1984 and $297,686,000 of fiscal year 1985 for the research programs of the Environmental Protection Agency (EPA). The fiscal year authorization is $78,000,000 above the President's fiscal year 1984 request of $205,510,000. The fiscal year 1985 authorization is $14,176,000 or 5 percent above the fiscal year 1984 funding recommendation. Last year's EPA research authorization bill, S. 2577, which passed both the House and Senate but was ultimately vetoed by the President, authorized $283,500,000 for these same activities for fiscal year 1984.

In addition to program authorizations H.R. 2899 contains provisions concerning Superfund research, long-term research, the Senior Environmental Assistance program, the EPA Science Advisory Board and indoor air quality. These provisions are identical to those in last year's bill, S. 2577. The EPA Science Advisory Board provision, however, does not contain the language requiring representation of the States industry, labor, academic, consumers, and the general public.

III. Background and Need for the Legislation

The Committee on Science and Technology has adopted the practice of annual authorization of the Environmental Protection Agency research program as a way of ensuring that the program is well managed and is supporting the Agency's primary role of protecting public health and welfare.

Last year's bill, H.R. 6323, continued the process of authorizing program funds and providing program direction. As with H.R 6323, this year's bill, H.R. 2899, authorizes program funds and provides program direction for two fiscal years. This multi-year authorization is intended to promote stability and continuity in the Agency's research program which, given the nature of research, should enhance program quality.

IV. Explanation of the Bill

INTRODUCTION

The paragraphs that follow provide a section-by-section description of the content and purpose of the bill. Table 1 provides a summary of all appropriations that are authorized by this bill.

The first column in Table 1 shows the actual funding in fiscal year 1981 while the second column indicates actual funding in fiscal year 1982. Column three shows the Agency's estimated spending in fiscal year 1983 and column four reflects the fiscal year 1984 budget request submitted by the President to the Congress. The fifth column represents the Committee's fiscal year 1984 recommendation while column six shows the difference between the fiscal year 1984 authorization and the President's request. Column seven contains the fiscal year 1985 recommended authorization and column eight compares the fiscal year 1985 authorization with the fiscal year 1984 authorization. The last column identifies the corresponding section of the bill that authorizes appropriations for each program for fiscal year 1984 and fiscal year 1985.

A section-by-section description of the bill along with a discussion of the Committee's actions and views follow:

SECTION 1

The bill is cited as the "Environmental Research, Development, and Demonstration Act of 1984".

SECTION 2

Section 2 of the bill provides for authorization of appropriations for the research program categories. Except where otherwise noted, these are the program categories used by the Environmental Protection Agency in developing their budget request.

The following paragraphs describe each of the research programs and the corresponding Committee action for fiscal years 1984 and 1985. The discussion of individual programs in organized by the media indentified in Table 1. There is a brief overview for each of the medium, followed by discussion of Committee actions.

TABLE 1.—EPA OFFICE OF RESEARCH AND DEVELOPMENT: SUMMARY OF AUTHORIZED APPROPRIATIONS

[By fiscal years, in thousands of dollars]

Program (by medium)	1981 actual	1982 actual	1983 estimate	1984 request	1984 auth.	1984 auth. vs 1984 req.	1985 [1] auth.	1985 auth. vs 1984 auth.	Bill section
Air	67,494	54,402	59,380	51,191	61,191	+10,000	64,251	+3,060	2(a)(1)
Water quality	62,881	53,529	30,582	19,250	39,750	+20,500	41,738	+1,988	2(a)(2)
Drinking water	26,345	30,913	23,323	20,900	23,400	+2,500	24,570	+1,170	2(a)(3)
Hazardous waste	29,643	29,246	32,952	27,389	39,889	+12,500	41,883	+1,994	2(a)(4)
Pesticides	10,604	7,112	6,521	6,063	6,063	0	6,366	+303	2(a)(5)
Radiation	3,167	2,545	1,726	233	1,233	+1,000	1,295	+62	2(a)(6)
Interdisciplinary	6,385	6,558	6,951	18,144	27,144	+9,000	28,501	+1,357	2(a)(7)
Toxic substances	35,518	34,146	27,206	23,769	23,769	0	24,957	+1,188	2(a)(8)
Energy	97,778	22,155	12,427	9,492	21,492	+12,000	22,567	+1,075	2(a)(9)
Acid rain	7,161	9,193	12,529	14,038	14,038	0	14,740	+702	2(a)(10)
Superfund	0	13,813	6,336	6,381	16,381	+10,000	17,200	+819	2(a)(11)
Management and support	8,576	7,931	8,662	8,660	9,160	+500	9,618	+458	2(b)
Total	355,552	271,543	228,647	205,510	283,510	+78,000	297,686	+14,176	

[1] 5 percent increase over fiscal year 1984 authorization level for each program category.

SEC. 2(a)(1) AIR

General program description

The air research and development program supports implementation of the Clean Air Act and is designed to furnish EPA with the knowledge to establish prudent air quality standards and controls based upon known or potentially adverse health and ecological effects; to define, develop, and demonstrate systems for controlling stationary source pollution; and to evaluate strategies for minimizing the emission of air pollutants.

To achieve these ends, the program is structured to identify and, to the extent possible, quantify the adverse human health effects of exposure to air pollutants; to quantify the effects and fate of air pollutants on biological components and processes within the environment; to develop predictive models for pollutant emission, transport, transformation, and removal, and verify these models by actual measurements; and to develop new and improved technology for preventing and controlling air pollution and demonstrate the cost effectiveness of such technologies. The air research and development program also provides analytical measurement methods for monitoring air pollutants; provides procedures and materials to document the validity of monitoring data; and provides technical expertise, specialize facilities and equipment to the regulatory and enforcement programs.

This program is divided into four component programs to coincide with the major areas of attention in the Clean Air Act. These subprograms include the Oxidants program, the Hazardous Air Pollutants program, the Mobile Sources program, and the Gases and Particles program.

Budget request

The total request for this program for fiscal year 1984 was $51,191,000, a decrease of $8,189,000 from fiscal year 1983 appropriations of $59,380,000. This net reduction reflects: (1) phase-down of environmental engineering and technology in the Oxidants program and the Gases and Particles program, (2) termination of health effects research on diesel emissions and fuel and fuel additives, (3) phase-down of ecological research on gases and particles, and (4) expansion of health assessments on hazardous air pollutants.

Committee action

The Committee provided a total fiscal year 1984 authorization of $61,191,000 for this program, an increase of $10,000,00 from the request. Programmatically, the fiscal year 1984 increase is distributed as follows:

Health effects.—$3,000,000 for health effects research on toxic and conventional air pollutants, especially as they affect the young and old. The Committee, in providing this increase, directs the Agency to give special attention to risk assessment studies on hazardous air pollutants and research supporting development of National Ambient Air Quality Standards (NAAQS) for sulfur oxide/particulate matter and for nitrogen oxides. In 1976, EPA indentified 600 air borne pollutants as possible candidates for listing and

regulation as Hazardous Air Pollutants (HAPS). To date, EPA has listed seven pollutants as HAPS of which four are currently regulated. EPA is now investigating 37 air borne pollutants for listing as HAPS, many of which are regulated under other Federal statutes. One half of the additional funds provided here is to be used for HAPS research, accelerating EPA's evaluation of the 37 pollutants now under investigation. The remainder of the addition is for research supporting the sulfur oxide/particulate matter and the nitrogen oxide criteria documents which are used to establish NAAQS for these pollutants. The scientific basis for these standards appears to be the weakest among the criteria pollutants. Moreover, the Committee is concerned over the Agency's approach to managing the research in support of revising the criteria documents which must be done every five years. Because of the nature and realities of research, the Agency is unlikely to build significantly to the scientific basis underlying NAAQS if it starts its research effort two to three years prior to when the standard must be reevaluated. A consistent level of research effort promises to yield more new knowledge and, therefore, more justifiable standards. The Comittee directs the Administrator to follow this approach.

Control technology.—$5,000,000 for control technology development to meet the requirements of the Clean Air Act. The control technology program as a whole should strive to improve the pollution removal capabilities and decrease the cost of air pollution control technologies. In addition, the Committee directs the agency to accelerate development and demonstration of LIMB technology which offers much promise for improving removal of sulfur oxide and nitrogen oxide emissions associated with coal combustion.

Environmental processes.—$2,000,000 for ecological research on the effects of air pollutants on agriculture. Specifically, this increase is for the National Crop Loss Assessment Network (NCLAN) program. This is a nationally coordinated program, initiated by the Environmental Protection Agency, of field and laboratory studies to examine crop losses due to air pollution. NCLAN consists of a group of cooperating government and nongovernment organizations engaged in field work, crop modeling, and economic studies to assess the immediate and long-term economic consequences of the effects of air pollution on agricultural crop production.

The effects of air pollution on agricultural productivity have been estimated to be between $2 and $4 billion per year. However, much more needs to be done to understand the full effect of air pollution on our agricultural and national ecomomy. The Committee has supported this important program in the past and continues to support its funding. The Administrator of the Agency has indicated support for the program as well in an April 5, 1982 letter to a Member of this Committee. Having completed only three years of work on a program envisioned to take six years, and in consideration of the complexity and long-term nature of the problem being examined, the Committee considers it important to continue.

A part of the NCLAN program that the Committee views with special interest deals with the use of bees as a bioindicator of air pollution trends. The Committee has always considered the use of bioindicators as a valuable and useful tool in detecting changes in

the environment. The Committee would like to see this effort with bees carried out and thoroughly evaluated for its promise. Therefore, the Committee directs that the Agency continue its current studies on Vashyon Island in the Puget Sound area. The Studies should be directed at developing the methodology for early warning of hazardous chemical distribution over wide geographic areas, and should be constructed so that the findings and methodology can be later applied to other areas of the country.

For fiscal year 1985, the Committee provided an authorization of $64,251,000 for this program, an increase of $3,060,000 (5 percent) from the fiscal year 1984 authorization, with the same fiscal year 1984 program distribution and direction.

SEC. 2(a)(2) WATER

General program description

The role of research and development in EPA's water quality program is to provide the scientific information needed to support its standard setting and enforcement activities as required under the Federal Water Pollution Control Act. To do this, a multifaceted research program has been established. The goals of this program include the development of efficient and cost effective wastewater treatment technology for both municipalities and industries; the determination of the health implications of existing technology for treatment and disposal of wastewater and sludge; the determination of useful and defensible monitoring methods; documentation of the validity of monitoring data; definition of criteria for water use in various aquatic environments; the establishment of strategies for control of pollution from spills of hazardous materials; and the prevention or control of pollution from agriculture and forestry sources. An overall goal is to provide the scientific basis for economical and socially viable environmental management.

This program consists of three component programs—the Water Quality Program, the Muncipal Wastewater Program, and the Industrial Wastewater Program.

The Water/Water Quality program provides the scientific information, techniques and technical assistance to select the most appropriate water quality goals; assess current and future water quality problems; and identify cost-effective water quality management strategies. Specifically, this program:

Provides reports and information used to establish the relationship between assumed exposure to pollutants and potential adverse toxicity to human health and aquatic life;

Develops monitoring technology capable of quantifying those environmental measurements for importance to the Agency;

Provides health effects data for use in developing water quality criteria and in defining sound watershed management approaches;

Develops: (1) water qualify criteria for the protection of aquatic life; (2) exposure analysis predictive techniques for conducing toxic materials balances necessary to identify major sources, pathways and fates of toxic pollutants and to devise cost-effective nationwide, regional, or local control strategies; (3) watersheds analysis techniques for identifying water quality

problems and selecting cost-effective point and nonpoint source control strategies; (4) techniques for assessing water quality problems in lakes and selecting cost-effective restoration measures; (5) techniques for assessing the impacts of dredge and fill operations on wetlands and other aquatic environments; and (6) techniques for assessing the impacts of ocean discharge and dumping activities on the marine environment; and

Provides, through a field assessment program, the scientific information needed to effectively manage water quality in the Great Lakes and Chesapeake Bay.

The Water/Municipal Wastewater program has two distinct facets: Municipal Wastewater Engineering and Technology and Hazardous Materials Spills. This program furnishes the engineering and technology support for the Agency Construction Grants Program, the Sec. 208 Areawide Waste Treatment Management Program, the National Urban Runoff Program, the Clean Lakes Program, the Effluent Guidelines Program, the NPDES program and the Solid Waste Program (sludge management regulations). These programs are major activities within the Office of Water Enforcement and the Office of Solid Waste.

The Water/Industrial Wastewater program concentrates on point sources of water pollution resulting from those mining, manufacturing, service, and trade industries which must meet best available technology (BAT) standards for the Federal Water Pollution Control Act (FWPCA). This program is the realization of a national policy established in the 1972 Amendments which called for a major research and demonstration effort to develop the technology necessary to help eliminate the discharge of pollutants into the Nation's waters. The program thus develops new or improved technology having industry-wide application short term achievability, and long term viability. Research results also prove a significant date base for the establishment of economically and technically feasible effluent guidelines and treatment parameters for industrial liquid waste discharge permits.

Budget request

The total request for this progam during fiscal year 1984 was $19,250,000, a cut of $11,339,000 (37 percent) from 1983 spending. The request mainly reflected: (1) termination of the Great Lakes research program, (2) reduction in health effects research on water pollutants, (3) phase-out of control technology development for industrial and municipal waste water treatment, and (4) reduction in monitoring for industrial discharge of water pollutants.

Committee action

The Committee provided a fiscal year 1984 increase of $20,500,000 for this program, making a total fiscal year 1984 authorization of $39,750,000. This increase is programmatically distributed as follows:

Great Lakes.—For the Great Lakes Research Program, $2,500,000 is provided to restore this program to the fiscal year 1982 level of effort. The Committee directs that the program be implemented exclusively through the EPA's Large Lakes Research Station at Grosse Ile, Michigan. Research performed with these funds should

focus on assessing and measuring the sources, transport, fate and effects of pollutants in the Great Lakes, especially toxic pollutants such as dioxin, PCBs, and furans. These activities should be aimed at developing and implementing a management strategy for the control of pollution in the Great Lakes and at fulfilling the obligations of the United States as set forth in the Water Quality Agreement of 1978 which the U.S. and Canada signed.

Water quality.—An increase of $11,500,000 is authorized for the Water Quality research program of which:

$2,000,000 is for the evaluation and control of non-profit sources of water pollution;

$3,000,000 is for data quality assurance and monitoring for the detection and transport of toxic and conventional water pollutants in "hot spot" areas of the country where water pollution problems are most severe; and,

$6,500,000 is for health and ecological effects research on toxic pollutants found in the Nation's waters, with $1,500,000 going to a study on the accumulation, environmental impact, and source of toxic substances in the Narragansett Bay and surrounding estuaries, $1,500,000 going to a study on the accumulation, environmental impact, and source of toxic substances in the Puget Sound and surrounding estuaries, and $500,000 going to a study on the pesticide Temik and is impact on human health and water quality in the State of Florida.

With respect to the Temik study, the Committee directs the Agency to evaluate the use of the pesticide Temik by citrus growers in Florida and to assess the health effects of Temik on nearby residents and the impact of Temik on water quality. The Committee further directs that this study be performed by the Office of Research and Development in cooperation with the Office of Water, the Office of Drinking Water, and the Office of Pesticides, and shall be completed and provided to the committee within one year of enactment of this Act.

Municipal and industrial wastewater.—An increase of $6,500,000 is provided for additional research to improve the reliability, efficiency, and cost-effectiveness of municipal wastewater treatment plants and for research activities supporting the development and compliance with industrial effluent guidelines for priority toxic pollutants.

For fiscal year 1985, the Committee provided an authorization of $41,738,000, an increase of $1,989,000 (5 percent) from the fiscal year 1984 authorization, with the same program distribution and direction as in fiscal year 1984.

SEC. 2(a)(3) DRINKING WATER

General program description

The Drinking Water program supports implementation of Public Law 93-523, the Safe Drinking Water Act of 1974. Research and evaluations are conducted relating to: (1) causes, diagnosis, and prevention of diseases and other impairments in man resulting directly or indirectly from contaminants found in drinking water; (2) the treatment and control of those contaminants; and (3) the provision of dependable, economical, and safe supplies of water, including the

protection of underground sources of drinking water. Research is also conducted to develop and implement quality assurance procedures and protocols for water supply laboratories to assure that laboratory analytical data are accurate and valid.

More specifically, this program (1) identifies substances that occur in drinking water supplies at a sufficient number of locations to warrant regulations; (2) defines drinking water contamination effects on human health; (3) establishes analytical procedures to monitor contaminants; and (4) describes changes in treatment processes or new treatment technologies to minimize contaminant formation or reduce concentration levels. The contaminants addressed here fall into four categories; organic, inorganic (including asbestos), microbiological, and those affecting groundwater.

Budget request

The Agency requested a total of $20,899,000 for 1984, a decrease of $2,423,400 from 1983. The decrease primarily occurs in the environmental engineering and technology program.

Committee action

The Committee provided a fiscal year 1984 authorization of $23,400,000, an increase of $2,500,000 over the President's request. This increase is to be distributed among the following research activities:

Health effects.—$1,000,000 is for health research, including epidemiology research, on organic, inorganic and microbiological contaminants in support of developing and revising drinking water standards and $500,000 is for additional support of the Temik study directed by the Committee under the Water Quality program. This allocation for the Temik study is to be used for the evaluation of the degree of Temik contamination in Florida drinking water supplies and the impact of this possible contamination on the health of local residents. The results of these studies should be included in the report requested by the Committee under the Water Quality program.

Control technology.—$1,000,000 is for evaluation and development of treatment technologies, primarily for small systems, that will allow cost-effective attainment of drinking water standards. The Committee notes that the majority of communities found in violation of drinking water standards are small communities. To help alleviate this situation, the Committee believes the Agency should concentrate more resources on the development of small-flow systems. The additional funds provided here are exclusively for this purpose.

The Committee provided a fiscal year 1984 authorization of $24,570,000 for this program, in increase of $1,170,000 from the fiscal year 1984 authorization, with the same program distribution and direction.

SEC. 2(a)(4) SOLID/HAZARDOUS WASTE

General program description

Consistent with the goals of the Resource Conservation and Recovery Act of 1976 (RCRA), the objective of the hazardous waste re-

search and development program is to develop the technologies, methodologies and scientific data bases necessary to achieve environmentally acceptable, cost-effective solid and hazardous waste management from generation through disposal.

The research program provides the scientific basis which will allow the private and public sectors to (1) reduce the quantities of waste, especially hazardous waste, requiring disposal through process change, waste recycle and reuse or waste treatment, (2) ensure environmentally sound disposal and destruction of future wastes and (3) correct past mismanagement practices. The major objective is to support the regulatory and enforcement efforts in (a) the identification and listing of hazardous wastes, hazardous waste streams from industry and "polluting" hazardous waste disposal sites; (b) development and revision of regulations for disposal of wastes by land disposal, thermal destruction or chemical, biological or physical treatment; (c) providing assistance in the evaluation of permit applications; (d) development and evaluation of remedial action engineering for uncontrolled polluting waste disposal sites; and (e) the assessment of risk from hazardous waste production and mismanagement.

Budget request

The Agency requested a total of $27,389,300 for 1984, a decrease of $5,562,200 from 1983. This decrease primarily occurs in the environmental engineering and technology program.

Committee action

The Committee provided an increase of $12,500,000 for this program making the total authorization for fiscal year 1984 equal to $39,889,000. Programmatically, this increase is distributed as follows:

Monitoring.—$5,000,000 is for monitoring activities on the detection, concentration, transport, and fate of toxic substances such as dioxin, PCB, furans, etc.

Control technology.—$7,500,000 is for development and demonstration of disposal technologies for hazardous waste. The Committee directs the Agency to utilize these funds to develop and test new and promising disposal technologies that may be used on a wide variety of hazardous substances at a variety of locations across the country. The Committee directs that this program give special attention to advancing detoxification techologies, advanced thermal incineration technologies such as Thermal Plasma Systems, and other promising technologies.

In addition, the Commitee directs EPA to expend funds under this program in amounts necessary to determine the properties and half-life of dioxin in soil and other media and similar hazardous substances. As a result of the problems in Missouri as well as the potential problems that may exist in other states more research is needed in this area. While information is available on the health effects and methods of disposal, little or none is available on basis research.

Missouri, for example, has identified incineration as a method of disposal which would eliminate the known health hazard. However, the expense of treating the problem in Missouri in this manner

could reach a level of over $1 billion dollars. Officials believe further basic research needs to be done in enhancing and accelerating natural dioxin degradation so that method could be available. through photolysis, biological and other activity the cost of treatment may be reduced. As well, the natural degradation process might be severely reduced in the environment of landfill thereby guaranteeing its existence well into the future. By knowing more about hazardous wastes and their properties intelligent decisions can be made concerning efficient and final methods of disposal.

Finally, the Committee has been sensitive to the dilemma faced by many municipalities in trying to dispose of their refuse. The Committee is aware of several communities' efforts to operate resource recovery facilities, and of the environmental difficulties of such operation. One of these facilities, the Hempstead Resource Recovery Facility in Hempstead, N.Y., was found to emit dioxin in the parts per billion range while it was operating. The plant may reopen in the near future. In the event the plant does reopen, the Committee directs the Agency's Office of Research and Development, in coordination with the appropriate program offices, to conduct a study on the pollutants emitted from the Hemsptead Resource Recovery Facility in Hempstead, New York. By no later than September 30, 1984, EPA shall deliver to the Committee a completed study on the health effects of those pollutants previously emitted, including dioxin, which may have adverse health impacts on local residents.

SEC. 2(a) (5) PESTICIDES

General program description

The pesticides research program is designed to support EPA requirements specified by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, and the amendments to the Federal Food, Drug, and Cosmetic Act (FFDCA).

The research study areas for the support of these statutes include: (1) protect public health and the environment—to identify populations-at-risk, assess population exposures, and determine adverse effects to health and ecology; (2) minimize introduction of pesticides into the environment—to develop data to support strategies that will decrease future pesticide dispersion. In addition, this program provides quality assurance support for Agency measurements involving pesticides as well as providing resources for developing, validating, and documenting cost-effective alternate integrated pest control strategies for urban environments.

The 1982 budget request for this program is $6,876,000 and 93 positions. This reflects a decrease of $3,982,000 from 1981 which is primarily a broadly based reduction in environmental processes research and in agriculture Integrated Pest Management research which, henceforth, will be found solely by the U.S. Department of Agriculture.

Budget request

The Agency requested a total of $6,062,600 for 1984, a decrease of $458,100 from 1983. This decrease primarily occurs in the environmental processes and effects program.

Committee action

The Committee endorsed the President's request for this program.

SEC. 2(a)(6) RADIATION

General program description

The establishment of protective guidelines for permissible levels of radiation in the environment is an EPA responsibility. Reorganization Plan No. 3 of 1970 transferred all functions of the Federal Radiation Council to EPA. The reorganization also transferred to the Administrator the authority, under provisions of the Public Health Service Act, as amended in 1980, to conduct research as necessary to provide scientific data needed for the formulation of standards. EPA is conducting research on the potential health effects associated with these frequencies of nonionizing radiation most commonly found in the general environment.

EPA is conducting a health effects research program which now accounts for approximately 25 percent of Federal research on nonionizing radiation and is the largest intramural effort in this field in the United States. Present research focuses on radiofrequency and microwave radiation in the range of 300 to 300,000 megahertz. Such frequencies are most prevalent in the environment and are emitted from a variety of sources such as radar systems, microwave ovens, radios, televisions, and other communication devices.

The health effects program is designed to provide EPA and other concerned agencies with an understanding of the biological consequences of exposure to nonionizing radiation. This is accomplished with several research approaches. Biological effects studies in animals are increasingly focused on chronic exposures to low-level radiation, that is conditions analogous to the exposure circumstances for humans in the general environment. The primary research objectives are to determine if reproducible biological effects exist then to establish dose-response models. Critical points to be evaluated include behavioral immunologic, hemotologic, physiologic, reproductive, genetic, and teratologic factors. As a necessary tool for effects research, efforts are also directed toward improving dosimetric methods and exposure systems.

In addition, EPA has a monitoring and technical support program that was established in 1980 to document and improve the precision, accuracy and intercomparability of radiation measurements; to provide calibration facilities, expertise, equipment, guidelines, training, and performance evaluations needed by the program offices and states; and to supply quality control samples and reference materials containing radionuclides.

Budget request

The Agency requested a total of $233,100 for this program in 1984, a decrease of $1,492,600 from 1983. This decrease reflects termination of health research on nonionizing radiation.

Committee action

The Committee provided an increase of $1,000,000 for this program, making the total fiscal year 1984 authorization equal to $1,233,000.

This increase is for health effects research related to exposure from nonionizing radiation which the Agency proposed to eliminate in the budget request. The Committee directs that this program evaluate the behaviorial, immunologic, hemotologic, physiologic, reproductive, genetic, and terotologic effects resulting from exposure to non-ionizing radiations, especially at frequencies associated with high voltage power transmission lines.

For fiscal year 1985, the Committee authorized $1,250,000 for this program, an increase of $62,000 from 1984, with the same program direction and distribution as in fiscal year 1984.

SEC. 2(a)(7) INTERDISCIPLINARY

General program description

Although many problems are best approached directly by specific media programs, effective management of environmental problems also requires cutting across the usual media lines when the problem, skill or technique involved is not readily assignable to a specific medium. This interdisciplinary approach is consistent with the original concept behind the establishment of the Agency: an integrated organization to regulate pollution in all media and to assure that control measures applied to one media do not result in adverse impacts on other media. EPA applies this intermedia concept to those parts of the abatement and control and the research and development programs where the problems, tools, and results are multidisciplinary in nature.

The interdisciplinary research and development program includes three major components which address multidisciplinary and multimedia research.

The Exploratory Research program serves to integrate on an intermedia basis the longer term research needs of the Agency as expressed by the EPA 5-year Research Plan. The objectives of the program are to: (1) identify, define and assess long-term environmental trends, problems and opportunities; (2) support mission-oriented basic research to stimulate innovative and long-range ideas and to infuse such concepts into Agency planning; and (3) insure the scientific merit of such research through rigorous peer review. The primary goal of this program is to promote efforts to minimize future environmental problems in a manner compatible with other national long-term economic and social goals.

The Strategic Assessment and Special Studies program aims to provide long-range strategic guidance to the Agency's R&D planning process. The program produces an annual Environmental Outlook report, analyzing long-range trends and in-depth assessments of significant emerging environmental problems. Objectives are achieved by developing and maintaining forecasting techniques and supporting a variety of environmental problem identification assessments. The Agency's major effort to develop and improve eco-

nomic benefit estimates of environmental control is also maintained here.

The Exploratory Research Grants and Centers program identifies and supports long-range, mission-oriented research through the Competitive Grants programs, which subjects research proposals to a rigorous peer review and ranks them by scientific merit. The Exploratory Research Centers of Excellence are academic institutions which conduct research in specific critical areas related to the Agency's mission and are intended to secure a core of the best available researchers to investigate current and emerging environmental problems. A high priority of the Centers program is to establish working relationships with industry.

Budget request

The 1984 request for this program was $18,143,600, an increase of $11,192,600 from 1983. This is not an increase in the total budget; rather, it reflects consolidation of the Exploratory Grants and Centers resources into the Interdisciplinary program.

Committee action

The Committee authorized $27,144,000 for this program in fiscal year 1984, a $10,000,000 increase over the President's request. This increase is exclusively for grants or block grants to universities and similar institutions conducting long-term environmental research.

The Committee is extremely disappointed with the Agency's request for long-term research activities, believing it to be totally inadequate. Throughout the EPA budget request, reductions are made in long-term research citing the Agency's intent to concentrate on research that supports the more immediate needs of the Agency. In following this approach, EPA fails to recognize that, in many cases, immediate needs cannot be satisfied without first undertaking research of a long-term nature that builds fundamental knowledge necessary for fulfilling those immediate needs. The Committee, along with the National Academy of Sciences and the Office of Technology Assessment, has expressed this view in the past and continues to do so. In keeping with this view, and in response to the Agency's Inadequate attention to long-term research, the Committee directs the Administrator to obligate and expend 20 percent of its appropriation for the Office of Research and Development on long-term research.

With these programs, the Committee intends for the Agency to develop a continuous source of highly trained and dedicated professionals, with expertise needed to upgrade all the research programs of the Agency. Institutions which are assisted should be involved in the kinds of long-term research that are essential to support the activities of the Agency research program. Awards should be for approximately three years duration and shall be made after critical peer review. Moreover, such research projects shall be continuous and stable.

Finally, the Agency is hereby made aware of the Committee's intention that these programs be of the highest quality *and* relevant to the Agency's mission. Moreover, these programs shall include a peer review process for the award and evaluation of grants or block

grants that is open and fair. The Committee will pursue extensive oversight to ensure that these requirements are met.

For fiscal year 1985, the Committee authorized $28,501,000 for this program, an increase of $1,075,000 from fiscal year 1984, with the same program distribution and direction as in fiscal year 1984.

SEC. 2(a)(8) TOXIC SUBSTANCES

General program description

The research program conducted in Toxic Substances supports the needs of the Toxic Substances Control Act (Public Law 94-469). From modest beginnings in fiscal year 1977, the programs have grown rapidly, predominantly in the Health and Ecological Effects Program. During fiscal year 1977 and fiscal year 1978 the research programs, were mainly providing technical service activities to the Office of Toxic Substances.

The program has now expanded to address a variety of regulatory research needs. These needs require sufficient knowledge to: (1) develop first generation testing rules and regulations pertaining to screening techniques for health and ecological effects; (2) provide analyses for transport and fate of ambient pollutants; (3) determine the ambient presence of selected toxic substances; (4) recommend alternative manufacturing options for the processing and/or production of potentially hazardous or toxic materials; (5) provide a broad spectrum of technical expertise and specialized equipment to agency operating programs.

The research and development program focuses on developing improved rapid, reliable, and cost-effective techniques to be used for predicting transport, transportation, exposure concentration and adverse deleterious effects on human health and the environment resulting from exposure to toxic substances. Research will be done on predicting, measuring, and determining the significance of exposure to commercial chemicals, with the ultimate goal of preventing or reducing adverse human health effects.

Research will also be conducted to develop measurement methods for identification and quantification of trace level toxic substances in the environment. In addition, program emphasis will be on methods for measuring toxic chemicals in sediments, marine plants and in the air. These methods are needed in measuring exposure concentration, monitoring chemicals, designing control techniques and in enforcing regulations. In fiscal year 1983 and beyond, the program will provide field assistance to obtain data to validate testing protocols that have been issued and to assist in enforcement actions. Finally, the program includes an identified effort to investigate the effects of stratospheric ozone depletion on health and the biosphere.

Budget request

A total of $23,769,400 was requested for this program in 1984, a decrease of $3,437,000 from 1983. This decrease reflects reductions in monitoring and quality assurance and environmental processes and effects activities.

Committee action

The Committee endorses the President's request for this program for fiscal year 1984 and provides a $1,188,000 increase over the fiscal year 1984 authorization for fiscal year 1985.

Within this program, the Committee directs the Agency to conduct research which will result in techniques for assessing the potential of a particular chemical or a mixture of chemicals for causing human genetic damage. The goal of this research should be to identify instances where chemicals cause genetic alterations of the germ-line, and then to understand why they occur. In this research effort, the Committee directs the Agency to adopt and incorporate, where possible, the recommendations of the National Academy of Sciences Committee on Chemical Environmental Mutagens contained in their 1983 report entitled "Identifying and Estimating the Genetic Impact of Chemical Mutagens.

General program description

EPA has the statutory responsibility to protect the environment in the course of the national program to develop and use the Nation's domestic energy resources to lessen our reliance on imported energy sources. Research and development programs in support of that requirement are mandated by the Clean Air Act, the Federal Water Pollution Control Act, and the Resource Conservation Act. Energy development and utilization cut across virtually every aspect of industrial, utility, commerical, and residential activity and thus require an exceptionally strong technical and policy basis for effective and equitable regulatory actions. This energy-related environmental policy will be implemented by all agencies of the Federal government.

EPA also has the responsibility to review and coordinate the research activities of other Federal agencies with respect to the environment as they pursue their individual missions contributing to progress toward the national energy goals. EPA's part in this cooperative effort is to: (1) conduct environmental assessments; (2) develop an adequate scientific basis for new environmental regulations; (3) provide guidance on control technology requirements to Federal and industry groups where developing new technologies; (4) assist in the development of control technologies especially the Office of Research and Development which has special expertise; and (5) assess the adequacy of existing control technologies.

The Energy research and development program is designed to determine the environmental implications and effects of the Nation's energy development efforts. This energy/environment comprehensive plan to classify program content and resources has been developed to assure that the entire range of Federal energy/environment research and development is woven together into a manageble frame work. This plan identifies research by the types of energy resources, the processes in obtaining and using the energy, and the scientific disciplines of pollution options for conventional energy systems and the assessment of the environmental problems or advantages of new energy technologies being developed by the Department of Energy. The program is divided into broad seg-

ments: control technology; health effects; ecological effects; and monitoring systems.

Budget request

The Agency request a total of $9,492,000 for this program in 1984, a reduction of $2,935,000 from 1983. This reduction reflects termination of ecological research on energy pollutants and phase-down of control technology development activities.

Committee action

The Committee provided a fiscal year 1984 authorization of $21,492,000, an increase of $12,000,000 over the President's request. This increase is distributed as follows:

Indoor air quality.—$4,000,000 is authorized for a new research program on indoor air quality as set forth in Section 8 of this Act.

Waste oil research.—$500,000 is authorized for research necessary to develop guidelines for the disposal of waste oil. The Committee notes that these guidelines were due in October of 1981 but have yet to be promulgated. The Committee directs that this research move forward so that waste oil disposal regulations may be developed as they apply to the refining and lubricant industries.

Health effects.—$2,000,000 is added for health effects research on energy related pollutants. The Committee views this restoration as modest but essential. Pollutants associated with energy activities are many and they must be evaluated for their effects on public health and the environment and for possible regulation. The Committee believes that the private sector has neither the resources or incentive to undertake such research. The Committee, therefore, provides this increase for long-term health effects research on energy pollutants to identify the most harmful pollutants and to determine the relationship between human exposure to energy pollutants and their corresponding health effects.

Ecological effects—$2,000,000 is added for ecological effects research on energy related pollutants. The Committee directs the Agency to structure this program to:

(1) Characterize emissions, and develop atmospheric transport, transformation and dispersion models for pollutants which may be emitted during energy activities involving fossil fuels,

(2) Determine the ecological effects of management practices and pollutants associated with enhanced oil recovery, oil shale retorting, coal liquefaction and gasification, increased coal combustion, gas and oil drilling and other related activities, and

(3) Identify pollutants entering the environment as a result of fuel extraction activities such as oil shale development, coal mining, oil and natural gas recovery, and uranium mining; assessing their environmental impacts; and, developing methods and technologies to control these pollutants.

The Committee views this research as essential for developing effective control strategies that will mitigate the adverse impact of energy related pollutants.

Monitoring—$1,500,000 is provided for monitoring activities associated with energy pollutants. These funds are to be used for devel-

oping and validating monitoring methods for energy pollutants; for quality assurance services to State, local, and EPA laboratories; and for studies to assess actual human exposure to energy pollutants, especially those resulting from coal combustion.

Control technology.—$2,000,000 is added for development and demonstration of energy pollution control technologies. Committee does not believe that sufficient incentives exist for the private sector to invest adequate resources in developing and demonstrating energy pollution control technologies. High interest rates and the present climate of regulatory uncertainty diminish the justification for private sector investment in such activities. The Committee, therefore, provided additional funding for this program to allow the Agency to conduct and stimulate development of energy pollution control technologies. In so doing, the Agency should act as a catalyst for such development by concentrating the funding provided for this program on bench scale work and "proof-of-concept" demonstration activities.

For fiscal year 1985, the Committee authorized $22,567,000 for these programs, a $1,075,000 increase (5 percent) from the fiscal year 1984 authorization with the same distribution and direction.

SECTION 2(a)(10) ACID RAIN

Program description

The EAP's Acid Rain Research Program is a major element of the entire Federal research effort on acid rain which is mandated by the Acid Precipitation act of 1980 (Title VII of the Energy Security Act of 1980—Public Law 96-294). In this governmentwide program, research is conducted as to the causes, effects, and formation of acid rain, the monitoring of acid substances, the development of control technology, and the assessment and formulation of policies dealing with acid rain. EPA's program is involved in research in each of these areas.

More specifically, the 1984 program will conduct studies to determine:

The location of aquatic and terrestrial systems which are sensitive to acid precipitation;

Criteria for evaluating nutrient and toxic metal transport in soils and water:

Acid precipitation impacts on lakes, streams, and terrestrial systems;

Impacts of acid rain on agronomic crops;

Acid rain and sulfur dioxide/ozone interaction involving crop and yield effects;

Impacts of acid precipitation on minerals;

Changes in tap water quality relevant to acid precipitation effects and health risks associated with water chemistry, including heavy metal contamination;

The cost effectiveness of possible control measures for acid precipitation and control options relevant to coal supply and transportation;

Analysis tools for more accurately assessing the costs and benefits of alternative emission control strategies; and

Research strategies for controlled forest ecosystems studies in areas impacted by acid rain.

Budget request

The Agency requested $14,038,000 for the Acid Rain program in 1984, an increase of $1,509,000 from 1983. This increase is for additional support in the areas of: (1) deposition monitoring; (2) understanding atmospheric processes involving a comprehensive field experiment; (3) estimating and modeling aquatic effects in watersheds; and (4) developing and applying intergrated assessment techniques for benefits analysis utilizing data from all parts of the program.

Committee action

The Committee strongly endorses the President's fiscal year 1984 request for this program.

The program is part of a larger research effort on Acid Rain which involves many Federal agencies as well as other outside research groups. The success of this program will be greatly dependent on proper cooperation and integration and on exchange of information. The Committee expects EPA to take the necessary steps to ensure that these features are promoted and practiced so that all may benefit from this research effort.

The 12 percent increase which the Administration has requested for acid rain research in the fiscal year 1984 EPA budget is a graphic illustration of the significance which is attached to this problem. Acid rain is devastating the aquatic ecosystems of the Northeast; and evidence is beginning to mount that it poses a similar threat to many other areas of the nation. It is very gratifying to see that this Administration is sensitive to the problem and has responded in such a positive way.

Since the acid rain threat is one of such immediate importance, it is the Committee's hope that the research funded in this program will be targeted with great specificity toward those phenomena which bear directly on the development of a national control strategy. Cause and effect relationships need to be delineated with greater quantitative precision; emission sources of greatest importance need to be identified unequivocally and control strategies having the greatest cost effectiveness must be developed. This budget provides the necessary financial support for these tasks.

For fiscal year 1985, the Committee recommends $14,740,000 for acid rain research activities at EPA, an increase of $702,000 over fiscal year 1984. Fiscal year 1984 program distribution and direction are the same as in fiscal year 1985.

SECTION 2(a)(11) SUPERFUND

General program description

Superfund research and development activities are designed to support the Office of Emergency and Remedial Response, Regional Offices, States and industry by resolving those problems which inhibit the effective and efficient implementation of removal and remedial actions. For instance, many existing technologies, such as those used in the construction industry, wastewater treatment, and

spill cleanup, may be applicable to uncontrolled waste sites. However, before these technologies can be applied, they must first be tested, their cost and effectiveness determined, and limitations understood. Similarly, field response personnel must be in a position to rapidly identify and accurately measure the hazardous wastes they are confronted with, as well as be in a position to rapidly assess the risks involved to the surrounding population and ecosystems.

Because of these and other potential operational problems, Superfund research and development activities are systematically designed to meet the short-term objectives of:

Providing the necessary tools and methods for sampling analyses, laboratory analyses, quality assurance and remote monitoring to discover and characterize hazardous wastes from removal and remedial actions;

Providing the necessary tools to field response personnel to determine the potential ecological effects of hazardous substance spills and releases from uncontrolled waste sites;

Providing evaluations of the hazard potential from substances released from spills and uncontrolled waste sites; and

Providing engineering guidance to Federal, State and local officials in the immediate response to spills of hazardous substances; field evaluations of equipment and technologies for on-site treatment and destruction of hazardous wastes, leachates and contaminated groundwater; evaluating and assessing the most cost-effective technologies for performing remedial actions at uncontrolled sites.

Because Superfund is also legislatively designated at 5-year program, emphasis is not being placed on research per se, but on taking "off-the-shelf" technology and other information and adapting it to uncontrolled hazardous waste site situations.

Budget request

The Agency requested a total of $6,380,700 for this program in 1984, an increase of $45,000 from 1983. Within the request, there is an increase in monitoring activities and a decrease in environmental engineering and technology associated with clean up of hazardous waste dump sites.

Committee action

The Committee provided a fiscal year 1984 authorization of $16,381,000 for this program, a $10,000,000 increase over the President's request. These additional funds are for the following activities:

Monitoring.—$2,000,000 is for development and validation of monitoring methods for hazardous waste dump sites and for quality assurance services to State, local, and EPA laboratories. There are literally thousands of hazardous waste dump sites throughout the country and from these, about 400 of the worst sites are to be selected for cleanup using Superfund monies. Proper monitoring is crucial for gathering data necessary for comparative assessments of dump sites and, subsequently, for selection of the most hazardous that should be cleaned up. Also, monitoring is important for evaluating the effectiveness of clean-up activities. One of the critical

questions the Agency must be able to answer with respect to cleanup operations is how clean is clean. The funds provided here are intended to be used for monitoring research that will enhance the Agency's ability to make these crucial decisions.

Control technology.—$5,000,000 is for evaluation of hazardous waste cleanup technologies and, where appropirate, for the development and demonstration of such technologies. No two hazardous dump sites are the same with regard to the materials contained in the site and the physical characteristics of the site. The Agency's efforts to date in hazardous waste cleanup technology have focussed on evaluating off the shelf methods, however, they may not be the most effective and efficient. In order to ensure the most cost-effective expenditure of Superfund monies, additional funding is provided for the development and demonstration of new technologies and methods which may be more cost-effective than those that already exist.

Health effect.—$3,000,000 is for research to determine the health effects resulting from exposure to hazardous compounds found at a hazardous waste dump site. The Committee believes that it is essential to gain a better understanding of the health risks experienced by residents in close proximity to a hazardous waste dump site. Such information will help in making better determinations of which dump sites pose the greatest danger to citizens and, therefore, should be cleaned up expeditiously. The Committee directs this research take the form of epidemiological studies performed at representative sites across the country. In determining which sites to perform these studies, the Agency should consult State agencies and other pertinent Federal agencies, in particular, the Center for Disease Control. The Committee believes that an appropriate site to perform this research would be the Stringfellow Acid Pits in Glen Avon, California.

For fiscal year 1985, the Committee authorizes $17,200,000 for this program, an increase of $189,000 over fiscal year 1984, with the same program distribution and direction as in fiscal year 1984.

SECTION 2(b) PROGRAM MANAGEMENT AND SUPPORT

General description

This activity provides for centralized program direction, management, and other services for the Agency's research and development activities. It also includes the pro rata share of agencywide support costs which are allocated to the Research and Development appropriation as well as support costs which are incurred at the Office of Research and Development's laboratories and charged directly to this appropriation.

The program management activities associated with the Agency's research and development program include the overall direction and centralized management of the Office of Research and Development. It covers the salaries and other expenses of the Assistant Administrator for Research and Development and his principal deputies, their immediate staffs, and specialized staff groups, which assist them.

Program support covers the overhead services needed to support the research and development effort. Two types of support costs are

included. The first consists of the share of the cost of agencywide support services which are prorated to the Research and Development appropriation. These costs include common services provided to programs located in Washington, D.C.; Research Triangle Park, North Carolina; and Cincinnati; Ohio; as well as certain agencywide charges such as facilities leases costs, communications, and centralized ADP services. The second type of cost includes support services which are directly incurred in connection with the operation of the Office of Research and Development's laboratories. These direct costs consist mainly of laboratory and office services, utilities, building maintenance and similar "housekeeping" costs at research and development installations other than those located at Research Triangle Park and Cincinnati.

Budget request

The Agency requested a total of $8,660,000 for program management and support in 1984, a $2,000 decrease from 1983.

Committee action

The Committee provided an increase of $500,000 over the President's request for ORD program management and support, making the total fiscal year 1984 authorization equal to $9,160,000.

Of this increase $100,000 is provided to accelerate and upgrade development of ORD's research project tracking system. The Committee believes that the efficient operation of the Agency's research effort will be greatly improved with a good management control system which will be greatly improved with a good management control system which accurately tracks the progress and status of EPA's research projects and their results. The Committee directs the Agency to inform the Committee on the progress made in the development and refinement of this system.

In addition, the Committee believes that EPA research programs should be supported with the necessary tools to perform good research and, therefore, provides an additional $400,000 to be used for upgrading equipment used at EPA laboratories.

For fiscal year 1985, the Committee authorizes $9,618,000 for ORD program management and support, an increase of $458,000 over the fiscal year 1984 authorization, with the same distribution and direction as in fiscal year 1984.

SECTION 2(c)

Section 2(c) authorizes the Administrator of the Environmental Protection Agency to provide payment for peer review of grant and cooperative agreement applications and contract proposals between the Agency and individuals, universities, and other research institutions. This section is intended to apply not only to fiscal year 1984 but to subsequent years as well.

SECTION 2(d)

Section 2(d) provides the Administrator with the authority to transfer funds authorized under this Act only between program categories listed in sections 2(a) and (b). However, such transfers, when in excess of 10 percent of the funds authorized for particular

research categories, are prohibited without first notifying and seeking approval from appropriate committees of the House and Senate. The Committee agreed that it would be apropriate to give the Agency flexibility in making small changes (less than 10 percent) without seeking approval from Congress but that oversight by the Committees would be greatly enhanced if the Agency were required to notify the Congress and obtain approval before shifting larger sums between program categories.

SECTION 2(e)

This section prohibits the use of any funds appropriated under this Act for any payment for a reduction-in-force, in any fiscal year, in the Office of Research and Development or in any other Agency program office. Furthermore, no such reduction shall be finalized, unless at least thirty days prior to issuing any general notice of such reduction the Administrator informs the appropriate legislative and appropriations committees of the House and Senate in writing of the reasons for such reduction, the impact of such reduction on carrying out the provisions of this Act, the details of such reduction, and other pertinent information.

The Committee took this action to ensure that adequate and qualified manpower exists in the Agency to carry out the program authorized and provisions contained in this Act. The Committee realizes that personnel shifts may be required in response to budget constraints facing the Agency. The Administrator, however, may not make such shifts with the intent of promoting voluntary separations from the Agency. Moreover, the Administrator shall take such actions to ensure that personnel are assigned to positions and perform tasks for which they are qualified to perform through professional training and experience.

SECTION 2(f)

This section specifies that appropriations made pursuant to the authority provided by this Act may be obligated and expended by the Agency for such periods as may be allowed in Acts making such appropriations.

SECTION 2(g)

Section 2(g) prohibits the use of funds appropriated pursuant to this Act for activities other than those authorized by this Act. This section is intended to preserve a stable funding base for EPA research and development activities by prohibiting the use of research funds to make up for short-falls or to fund new initiatives in other EPA programs. It is the Committee's view that such shortfalls or new initiatives should be compensated for by other means, such as through supplemental appropriations, and not be depleting research funds which would jeopardize the Agency's ability to comply with the provisions of this Act.

SECTION 3. SUPERFUND RESEARCH

This section directs the Environmental Protection Agency to expend $15,000,000 from the Hazardous Substance Response Trust

Fund, created by Public Law 96-510, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, in both fiscal year 1984 and fiscal year 1985 to support research and development activities associated with or necessitated by the actual or threatened release of hazardous substances, as those terms are defined under Public Law 96-510. The Committee directs the EPA to use as much of these funds for research as may be necessary to comply fully with Section 104(i) and Section 301(a) and (b) of Public Law 96-510. The remaining funds may be used at the Agency's discretion but should emphasize activities in monitoring health effects research, site assessments, and clean-up methods and technologies as needed to resolve effectively the problems presented by hazardous waste dump sites across the country. The Committee also encourages the Agency to use these funds to provide technical support to States and local jurisdictions involved in efforts to deal with hazardous waste problems.

SECTION 4. LONG TERM RESEARCH

The Committee places a high priority on long-term research, believing that such research will not only build intellectual capital sorely needed by the Agency and the Nation, but will also enhance the overall quality of the Agency's research program and, subsequently, the credibility and effectiveness of EPA. This section, therefore, directs the Administrator to obligate and expend at least 20 percent of the funds appropriated to the Administrator for fiscal year 1984 and 1985 under authority provided by section 2(a) of this Act for long-term environmental research and development. This authorization is for inhouse peer-reviewed research, extramural grants for peer-reviewed research, cooperative agreements with or block grants to universities or similar institutions, and the Exploratory Core Research Program. The total appropriation provided for the Interdisciplinary Program pursuant to the authorization set forth in section 2(a)(7) of this Act shall be used for these programs. The remainder of the funds to be spent on these programs shall be taken from the funds appropriated for each other category of research authorized in section 2(a) in proportions which assure that each such category contributes the same percentage of the total amount appropriated for that category.

The Committee intends that the research funded through the programs authorized under this section be of the highest scientific quality and relevant to the Agency's mission, whether directly or indirectly, and be performed both on an inhouse and extramural basis. The mechanism employed by the Agency in making awards for such research is to include a peer review process that is open. Moreover, the Administrator is directed to organize and manage these programs for maximum benefit to EPA and to take such actions to ensure that the results of research funded through these programs are widely disseminated to those who would benefit therefrom. These requirements are so specified in this section.

Finally, this section requires the Administrator to prepare and submit to Congress, at the time the President's budget request is likewise submitted, a report on the performance of the programs authorized under this section. This requirement is imposed by the

Committee in order to help the Committee in evaluating program performance and to ensure that the Agency complies with the provisions set forth in this section.

(See discussion in this report related to the Interdisciplinary Research Program, section 2(a)(7), for related remarks.)

SECTION 5. ENERGY RESEARCH

This section directs the Administrator of the Environmental Protection Agency to utilize the funds appropriated to the Administrator under authority granted in section 2(a)(9) of this Act on a continuing environmental research program associated with energy development activities. This program shall contain four principal subprograms dealing with the development and demonstration of energy control technologies, research on the health effects of energy related pollutants, and ecological effects research of energy pollutants. These programs are to focus on identifying harmful pollutants and on developing appropriate and effective control measures for those pollutants identified as harmful and in need of control. In so doing, these programs are to examine the entire energy development cycle, from fuel extraction through combustion byproducts, for those energy resources that are undergoing major development, or are projected to do so, such as coal, oil, natural gas, and other fossil fuels. In addition, these programs shall give attention to environmental problems indirectly stemming from energy development.

In the Nation's drive to become less dependent on foreign sources of energy, domestic energy development activities have escalated and this trend is anticipated to continue in the future. While the Committee favors such development, these activities must proceed in an environmentally acceptable manner in order to safeguard public health and environmental quality. This responsibility should not be transferred to the private sector where incentives to be responsive to environmental concerns associated with energy development appear lacking. The Committee maintains that the Nation can best be served by preserving a strong and diverse energy research program in the Environmental Protection Agency. The Committee, by endorsing this section, directs the Agency to establish and maintain such a program thereby allowing the Agency to meet its statutorily mandated obligations.

SECTION 6. SENIOR ENVIRONMENTAL ASSISTANCE PROGRAM

This section directs the Administrator to establish a Senior Environmental Assistance Program which shall facilitate the utilization of the services of senior citizens in assisting Federal, State, and local agencies of government in carrying out the programs authorized under this Act. This program is intended to promote meaningful employment opportunities for older Americans and is based on a highly successful demonstration project carried out by the EPA in conjunction with the Administration on Aging and the Department of Labor. The Committee directs that this program be modeled after this demonstration project and that it promotes employment of eligible older Americans to work within the EPA on such activities as air monitoring and emission testing, pesticide inven-

tory and control, water supply sampling and monitoring, technical libraries, and public information, carcinogenic surveys and follow-ups, hazardous materials routing surveys, rural health screening, and noise abatement and control.

SECTION 7. SCIENCE ADVISORY BOARD

Section 7 amends the existing statutory framework for the Science Advisory Board. The EPA Science Advisory Board was initially established by the Administrator in January 1974 under the provisions of Federal Advisory Committee Act (5 U.S.C. App. 9(c)). The Board was subsequently reconstituted when the Committee created the statutorily mandated Science Advisory Board, as required under the Federal Advisory Committee Act, in the Environmental Research, Development and Demonstration Authorization Act of 1978 (Public Law 95-155).

The purpose of this section is to assure that original congressional intent that the SAB be highly qualified, balanced, independent and representative of diverse views is maintained. As conceived, the Science Advisory Board is to provide the Administrator, and the Congress, with expert, independent scientific review and appraisal of the Agency's scientific goals, needs and major programs. In addition, the SAB is intended to link the top EPA management closely with the scientific community, to make recommendations on research and development needs and to undertake special tasks and studies.

A major concern of the Committee in reconstituting the Science Advisory Board was that "the Independence of the Board be assured . . ." (H.R. Rep. No. 157, 95th Cong., 1st Sess., 1977) and was "not intended as a forum to be used by outside interests . . ." (H.R. Rep. No. 722, 95th Cong., 1st Sess., 1977). In its structure the Committee intended that the Science Advisory Board operate in conformity with the requirements of the Federal Advisory Committee Act, which provides, in pertinent parts that ". . . membership of the advisory committee be fairly balanced in terms of point of view represented and the functions to be performed . . ." In this context, "point of view" pertains to scientific point of view. Additionally, that legislation requires that ". . . the advice and recommendation of the advisory committee . . . not be inappropriately influenced by the appointing authority or by any special interest but . . . be the result of the advisory committee's independent judgment."

The Committee is concerned that its intention concerning independence and balance have not been followed during the recent reorganization. The Committee has received information that indicates that the terms of some members of the Science Advisory Board were not renewed because their environmental views were not compatible with those of certain officials at EPA. In addition, to the allegations of "hit lists", the Committee was further advised that prospective appointments to the SAB were subjected to examination of their political ideology prior to being approved for membership. The Committee stresses that SAB membership is not to be based on partisan political considerations but on scientific and educational competence.

The Committee would also not that this action would be taken even in the absence of the recent concern over politicization of the Board. The provision merely perfects the language in Public Law 95–155 relative to the Science Advisory Board to ensure that a structure and mode of operation exists that reflects the Committee's purpose and intent in creating the Science Advisory Board.

Section 7(a) of this bill amends section 8(b) of Public Law 95–155 in a number of significant respects.

Section (b) is amended to require that the Board be appointed from a list of nominees recommended by a nominating committee which includes representatives from the National Institute of Occupational Safety and Health, National Institute of Environmental Health Sciences, and National Cancer Institute, National Science Foundation, the National Academy of Sciences, and past and present members of the SAB. The nominating committee will be established, chaired, and managed by the National Institute of Environmental Health Sciences. The Committee has made this change in existing law to ensure that the nominees for the Science Advisory Board are highly qualified individuals and are well-known within the scientific community. Moreover, to further broaden the pool of potential qualified candidates, the nominating committee shall solicit additional names from the general public through notice in the Federal Register.

The Committee further amended section (b) to require the Administrator to select members of the Board in such a manner as to ensure that the Science Advisory Board is fairly balanced in terms of points of views represented and functions to be performed. The language employed by the Committee is similar to that recommended by the Senate Committee on Government Operations Study on Federal Regulations in order to emphasize that multimember organization's like the Science Advisory Board should be representative of a cross-spectrum in terms of scientific ideology and background.

The Committee is also concerned that wholesale departures of Science Advisory Board members will severely undermine the body of long-range expertise necessary for the Board to function properly. Accordingly, the amendment provides that no more than one-third of the total membership of the Board and its committees will expire during any one fiscal year. Moreover, the members of the Board will not serve at the pleasure of the Administrator, but will serve out the full-term unless involuntarily unable to discharge their duties or have engaged in activities that constitute a conflict of interest in violations of regulations promulgated in accordance with this section.

If a vacancy occurs, the amendment provides that the Administrator has 90 days in which to appoint a new member to the Board from those nominated to the Administrator by the nominating committee established under authority provided by this section. If no appointment has been made at the expiration of that period, the nominating committee shall, within sixty days, meet and appoint a Board member from the list of nominees supplied to the Administrator. The Committee included this provision in order to ensure that the Science Advisory Board will maintain its full complement

of members and continue to reflect that balance of interests deemed essential to the Board's operations.

Finally, the Committee has required that within 120 days of enactment, the Administrator shall promulgate conflict of interest regulations with respect to members of the Board. The Committee wishes to emphasize the importance of this provision. The Science Advisory Board, as envisioned by this Committee and retained by the Environmental Protection Agency, have far-reaching and important responsibilities that impact on the Agency's policymaking and regulatory activities. It is therefore crucial that Board members not have a present or future private economic or other interest that could potentially influence or interfere with the objective exercise of members' responsibility. The actions and recommendations of the Board must, in the Committee's view, be free of suspicion that the member acted out of self-interest.

SECTION 8. INDOOR AIR QUALITY

The Committee intends that the Environmental Protection Agency incorporate into the research program established by this section all efforts—federal, state, local and private—that involve or promote the conduct of research directed at enhancing our understanding of the indoor air environment.

In order to assist the Administrator to carry out the requirements of this section, the Committee directs that there be established—

(1) A federal Committee on Indoor Air Quality, to be chaired by a representative from the Environmental Protection Agency, and co-chaired by a representative from the Consumer Product Safety Commission and a representative from the Department of Energy, and to include as members representatives from the Department of Housing and Urban Development, Defense, Commerce, Health and Human Services, and Labor, and such other federal agencies as may be appropriate; and,

(2) An advisory group, supported by the Administrator, which shall be comprised of representatives of industry, the scientific community, public interest organizations, and state and local officials having responsibilities related to the purposes of this section.

It is the sense of committee that the Adminstrator should give particular emphasis to public information outreach activities to ensure that the results of the research program established by this section are widely disseminated. Such public information activities should include the establishment of a tollfree hot-line information service at the earliest possible opportunity.

The Committee also believes that the Administrator should seek the assistance of the National Institute of Building Sciences (NIBS) to assist in carrying out the provisions of this section. The Committee recognizes that NIBS was brought into being by Congress (Section 809, Public Law 93-383) for the express purpose of providing an authoritative national source of findings and advice to both the public and private sectors of the economy with respect to the use of building science and technology. The Committee feels that EPA

should avail itself of this resource during the planning and implementation of research, development, and demonstration activities authorized by this section.

V. Cost and Budget Data

The bill will authorize appropriations in the amout of $283,510,000 for fiscal year 1984 and $297,686,000 for fiscal year 1985.

In accordance with the requirements of Sec. 252(b) of the Legislative Reorganization Act of 1970, the Committee notes that this bill is an authorization bill for two years. If the program authorized under this bill remains substantially unchanged during the next five years and the same level of effort is expended, there will be no change in costs other than those occasioned by inflation or Federal salary increases.

VI. Oversight Findings and Recommendations

Pursuant to Rule XI, Clause 2(l)(3), of the Rules of the House of Representatives, and under the authority of Rule X, Clause 2(b)(1) and Clause 3(f), the results and findings of oversight activities considered by the Committee on Science and Technology have been adopted and are incorporated in the recommendations found in the present bill and report. Briefly stated, the Committee on Science and Technology found the research programs of the Environmental Protection Agency to be oriented toward satisfying immediate regulatory needs and inadequate with respect to basic research and research on emerging environmental problems. The Committee found that this imbalance jeopardizes the EPA's ability to implement effectively the environmental statutes under its jurisdiction and to respond appropriately to emerging environmental problems facing the Nation. The Committee, therefore, recommended increased attention and resource allocation to basic environmental research and research on emerging environmental problems of greatest threat to the Nation.

VII. Congressional Budget Act Information

This bill provides for new authorization rather than new budget authority and consequently the provisions of section 308(a) of the Congressional Budget Act of 1974 are not applicable. No authorization for State or local financial assistance is included in the bill.

VIII. Congressional Budget Office Cost Estimate

1. Bill number: H.R. 2899.

2. Bill title: Environmental Research, Development, and Demonstration Act of 1984.

3. Bill status: As ordered reported by the House Committee on Science and Technology, May 10, 1983.

4. Bill purpose: The bill authorizes appropriations of $238.5 million for fiscal year 1984 and $297.7 million for fiscal year 1985 for the Environmental Protection Agency to administer research, development, and demonstration programs, and specifies that at least 20 percent of the amount appropriated must be allocated to long-

term research. The 1984 authorization represents an increase of $54.9 million over the $228.6 million appropriated for 1983, and exceeds the President's 1984 budget request by $78.0 million.

The bill also stipulates that funds appropriated from the Hazardous Substances Response Trust Fund (commonly known as the Superfund) in fiscal years 1984 and 1985, $15 million is to be expended for research and development activities each year. In addition, the bill amends the Environmental Research, Development, and Demonstration Act of 1978 with regard to the membership and qualifications provisions for the Science Advisory Board.

5. Estimated cost to the Federal Government:

[By fiscal years, in millions of dollars]

	1984	1985	1986	1987	1988
Authorization level	283.5	297.7			
Estimated outlays	131.7	226.7	125.9	60.5	27.3

The costs of this bill fall within budget function 300.

BASIS OF ESTIMATE

The authorization levels are those stated in the bill, and are assumed to be appropriated in full prior to the start of each fiscal year. Outlays were estimated based on historical spending patterns for these programs. The $15 million reserved from the Superfund each year for research and development is not reflected in the above estimate, because that stipulation does not entail any additional authorization.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: None.

9. Estimate prepared by: Anne E. Hoffman.

10. Estimate approved by: C. J. Nuckols (For James L. Blum, Assistant Director for Budget Analysis).

IX. Oversight Findings and Recommendations, Committee on Government Operations

No findings or recommendationson over sight activity pursuant to clause 2(b)(2), Rule X, and clause 2(l)(3)(D), Rule XI, of the Rules of the House of Representatives have been submitted by the Committee on Government Operations for inclusion in this report.

X. Effect of Legislation on Inflation

In accordance with Rule XI, clause 2(l)(4) of the Rules of the House of Representatives, this legislation is assessed to have no adverse inflationary effect on prices and costs in the operation of the national economy.

Expenditures by EPA's Office of Research and Development are made in support of basic and applied research conducted in EPA laboratories, by colleges, universities, and private industry under grants and contracts, and by the government agencies through formal interagency agreements.

The research and development program supported by this bill produces the valid scientific information and the most cost-effective technical tools and control systems for our national policy for environmental protection. In the long run, savings will be achieved by providing the most economically feasible techniques in support of such large scale endeavors as the nation's multi-billion-dollar wastewater construction grant program.

The Committee recognizes that there is a current controversy concerning whether or not environmental health and safety regulations are inflationary. As mentioned above, there are certain research and development projects in the field of contol technology that can help alleviate the economic burdens of regulation, and in that sense some of the programs authorized in this bill may be anti-inflationary. Other areas of research, such as health effects research should be considered economically neutral because they provide information needed to make regulatory decisions. If anything, the current controversy and debate should increase the emphasis on the need for high quality health effects research, for accurate environmental monitoring, and for credible assessment of human health risks. The Committee intends that regulatory decisions, either to regulate or not to regulate, be based on the highest quality information and believes that such information will lead to optimum decisions.

XI. Changes in Existing Law Made by the Bill, as Reported

In compliance with clause 3 of Rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

Section 8 of the Environmental Research, Development, and Demonstration Authorization Act of 1978

Sec. 8. (a) * * *

* * * * * * *

[(b) Such Board shall be composed of at least nine members, one of whom shall be designated Chairman, and shall meet at such times and places as may be designated by the Chairman of the Board in consultation with the Administrator. Each member of the Board shall be qualified by education, training, and experience to evaluate scientific and technical information on matters referred to the Board under this section.]

(b)(1) The Board shall be composed of at least nine members appointed by the Administrator from nominees recommended to the Administrator by a nominating committee. The nominating committee shall include representatives from Federal research agencies including but not limited to the National Institute of Occupational Safety and Health, National Institute of Environmental Health Sciences, National Cancer Institute, National Science Foundation, National Academy of Sciences and current and former members of the Science Advisory Board. The nominating committee shall be established, chaired, and managed, in consultation with the Administra-

tor, by the National Institute of Environmental Health Sciences. The nominating committee shall solicit from the general public, through notice in the Federal Register, candidates for nomination to the Board. The Administrator may require such information from the nominees to the Board as the Administrator deems necessary, and the Administrator shall publish in the Federal Register the name, address, and professional affiliation of each nominee.

(2) Each member of the Board and nominee to the Board shall be qualified by education, training, and experience to evaluate scientific and technical information on matters referred to the Board under this section. The Administrator shall select persons nominated for the Board to ensure that Board membership is fairly balanced in terms of the points of view represented and the functions to be performed by the Board.

(3) The terms of the members of the Board shall be three years, and shall be staggered so that the terms of no more than one-third of the total membership of the Board and its committees shall expire within a single fiscal year. Each member of the Board shall serve the full length of that member's term unless that member is unable, for involuntary reasons, to discharge his or her duties as set forth in this section or has violated the regulations promulgated pursuant to paragraph (5).

(4) If a vacancy on the Board is not filled by the Administrator within ninety days of the occurrence of that vacancy, the nominating committee established under paragraph (1) shall meet and appoint, within sixty days, a member of the Board to fill that vacancy from the list of nominees recommended to the Administrator under paragraph (1) in accordance with the selection criteria set forth in paragraph (2).

(5) In order to ensure the objectivity of the Board, the Administrator shall promulgate, within one hundred and twenty days after the date of the enactment of this paragraph, regulations regarding conflicts of interest with respect to the members of the Board.

* * * * * * *

(e)(1) The Administrator, at the time any proposed criteria document, standard, limitation, or regulation under the Clean Air Act, the Federal Water Pollution Control Act, the Resource, Conservation and Recovery Act of 1976, the Noise Control Act, the Toxic Substances Control Act, or the Safe Drinking Water Act, or under any other authority of the Administrator, is provided to any other Federal agency for formal review and comment, shall make available to the Board such proposed criteria document, standard, limitation, or regulation, together with relevant scientific and technical information in the possession of the Environmental Protection Agency on which the proposed action is based.

(2) The Board may make available to the Administrator, within the time specified by the Administrator, its advice and comments on the adequacy of the scientific and technical basis of the proposed criteria document, standard, limitation, or regulation, together with any pertinent information in the Board's possession. *The Board's advice and comments and the response of the Administrator shall be included in the record with respect to any proposed rule and published in the Federal Register in accordance with the re-*

quirements of the environmental statutes and the authority of the Administrator.

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(h)(1) Upon the recommendation of the Board, the Administrator shall appoint a secretary, and such other employees as deemed necessary to exercise and fulfill the Board's powers and responsibilities. The compensation of all employees appointed under this paragraph shall be fixed in accordance with chapter 51 an subchapter III of chapter 53 of title 5 of the United States Code.

[(2) Members of the Board may be compensated at a rate to be fixed by the President but not in excess of the maximum rate of pay for grade GS–18, as provided in the General Schedule under section 5332 of title 5 of the United States Code.]

(2) Members of the Board shall be compensated at a rate to be fixed by the President but not less than $100.00 per day of service and not more than the maximum rate of pay for grade GS–18, as provided in the General Schedule under section 5332 of title 5 of the United States Code.

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XII. Committee Recommendations

A quorum being present, the Committee favorably reported the bill by voice vote, H.R. 2899, and recommends its enactment.

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